WHAT IS CLAIMED IS:

1. A micro-optoelectro-mechanical system (MOEMS) integrated circuit spatial light modulator comprising:

an array of reflective devices;

an integrated circuit actuator coupled to a substrate, the integrated circuit actuator having an array of actuator elements; and

first and second arrays of electrodes coupled to opposite walls of the actuator elements.

2. The spatial light modulator of claim 1, wherein the actuator elements and electrodes are configured to move the reflective elements in two directions.

3. The spatial light modulator of claim 1, wherein the actuator elements and electrodes are configured to move the reflective elements in four directions.

4. The spatial light modulator of claim 1, wherein each electrode in the second array of electrodes comprises first and second electrode sections.

5. The spatial light modulator of claim 4, wherein the first and second electrode sections and the first array of electrodes are configured to allow the actuator elements to tilt the reflective devices.

6. The spatial light modulator of claim 1, further comprising:

a first coupling device between the actuator elements and electrodes in the second array of electrodes; and

a second coupling device between electrodes in the first array of electrodes.

7. The spatial light modulator of claim 1, wherein adjacent ones of the actuator elements have different heights.

8. The system of claim 2, wherein the actuator element moves the reflecting device about one-quarter of a wavelength of light in each direction.

9. The spatial light modulator of claim 1, wherein:

the first array of electrodes is coupled between a first end of the actuator elements and the reflective devices; and

the second array of electrodes is coupled between a second end of the actuator elements and a substrate.

10. The spatial light modulator of claim 1, wherein the actuator elements are configured such that the reflective devices form an overall curved shape.

11. The spatial light modulator of claim 1, wherein the actuator elements are formed in varying heights and positions on the substrate, such that varying wavefront patterns are generated by light reflecting therefrom.

12. A method of forming a spatial light modulator having an integrated circuit actuator device, comprising:

(a) forming a conductive interconnect pattern on a substrate;

(b) forming a plurality of piezoelectric elements on the conductive interconnect pattern;

(c) forming respective electrodes on an end of the plurality of piezoelectric elements; and

(d) forming mirrors on the electrodes on the ends of the piezoelectric elements.

13. The method of claim 12, wherein step (a) comprises:

(a1) plating the conductive interconnect pattern.

14. The method of claim 13, wherein step (a1) comprising using nickel as the conductive material.

15. The method of claim 12, wherein step (b) comprises:

(b1) depositing a piezoelectric material on the conductive interconnect pattern;

(b2) coating the piezoelectric material with resist;

(b3) printing an actuator pattern on the resist;

(b4) developing the resist such that actuator areas remain coated; and

(b5) anisotropically etching through unmasked areas of the piezoelectric material.

16. The method of claim 15, wherein step (b1) comprises using at least one of sputtering, evaporation, and plating.

17. The method of claim 15, wherein step (b5) comprises using at least one of chemically assisted plasma etching, sputter, and ion milling techniques.

18. The method of claim 12, wherein step (c) comprises:

(c1) depositing a conductive layer; and

(c2) coating the conductive layer with resist.

19. The method of claim 12, wherein step (d) comprises:

(d1) printing a mirror pattern on the resist;

(d2) developing the resist such that mirror pattern areas are exposed;

(d3) depositing mirror material on the mirror pattern areas; and

(d4) removing all remaining resist.

20. The method of claim 12, further comprising using at least one of silicon, sapphire, and silicon on sapphire as the substrate.

21. A method comprising:

(a) receiving light at an integrated circuit MOEMS spatial light modulator having an array of mirrors;

(b) moving the mirrors using integrated circuit PZT actuators on the MOEMS spatial light modulator via electrodes coupled thereto; and

(c) forming a wavefront based on the light interacting with the mirrors.

22. The method of claim 21, wherein step (b) comprises:

energizing a first and second array of electrodes coupled to opposite walls of the actuator elements, such that the actuator elements and the mirrors coupled thereto move in two directions.

23. The method of claim 22, wherein the two directions are towards and away from a substrate supporting the electrodes.

24. The method of claim 21, wherein step (b) comprises:

energizing electrodes in a first array of electrodes coupled to a first wall of the actuator elements; and

energizing one of first and second electrodes in a second array of electrodes coupled to a second wall of the actuator elements, such that the actuator elements and the mirrors coupled thereto move in four directions.

25. The method of claim 24, wherein the four directions are toward, away, and tilted in two directions with respect to a substrate supporting the actuator elements.

26. The method of claim 21, wherein the actuator element moves the reflecting device about one-quarter of a wavelength of light in each direction.

27. The system of claim 3, wherein the actuator element moves the reflecting device about one-quarter of a wavelength of light in each direction.

28. The method of claim 21, further comprising:

energizing electrodes in the first and second array of electrodes, such that the actuator elements and the mirrors coupled thereto move in a plurality of directions.